Air Quality Permitting
Statement of Basis

June 13, 2006

Tier I Operating Permit No. T1-030512

Busch Agricultural Resources, Inc., Idaho Falls

Facility ID No. 019-00025

Prepared by:

CZ

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FINAL

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Acronyms, Units, and Chemical Nomenclatures

AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
EPA	U.S. Environmental Protection Agency
gr/dscf	grains (1 lb = 7,000 grains) per dry standard cubic foot
HAPs	Hazardous Air Pollutants
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
lb/hr	pound per hour
MACT	Maximum Achievable Control Technology
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_x	nitrogen oxides
NSPS	New Source Performance Standards
PM	particulate matter
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PSD	Prevention of Significant Deterioration
PTC	permit to construct
Rules	Rules for the Control of Air Pollution in Idaho
SIP	State Implementation Plan
SM	synthetic minor
SM80	synthetic minor with emissions of 80% or more of the major source threshold value
SO_2	sulfur dioxide
T/yr	tons per year
UTM	Universal Transverse Mercator
VOC	volatile organic compound

1. PURPOSE

The purpose of this memorandum is to explain the legal and factual basis for this Tier I operating permit in accordance with IDAPA 58.01.01.362.

The Department of Environmental Quality (DEQ) has reviewed the information provided by Busch Agricultural Resources regarding the operation of its facility located in Idaho Falls. This information was submitted based on the requirements to submit a Tier I operating permit application in accordance with IDAPA 58.01.01.313.

2. FACILITY DESCRIPTION

The Busch Agricultural Resources facility produces barley malt from barley grains. The grains handling area includes equipment for loading and unloading grain, malt and by-product materials, equipment for cleaning grain and malt, and equipment for conveying and storing grains and malt. All grains handling at the facility uses baghouses to control PM emissions. The baghouse control systems are identified as System 100 through System 800. Malt production uses four indirect-fired natural-gas kilns to dry the green malt. Utility operations include three natural-gas-fired boilers. The boilers provide steam for the malting process equipment.

3. FACILITY / AREA CLASSIFICATION

This facility is a major facility as defined by IDAPA 58.01.01.008.10 because it emits or has the potential to emit a regulated air pollutant(s) in amounts greater than or equal to major facility threshold(s) listed in Subsection 008.10. Refer to Section 6.2 of this document for a complete emissions inventory of the air pollutants emitted by this facility.

This facility is not a designated facility as defined by IDAPA 58.01.01.006.27.

This facility is not a major facility as defined by IDAPA 58.01.01.205 because it does not emit or have the potential to emit a regulated criteria air pollutant in amounts greater than or equal to 250 tons per year.

The Standard Industrial Classification (SIC) defining the facility is 2183, and the Aerometric Information Retrieval System (AIRS) facility classification is A.

The facility is located in Idaho Falls, which is classified as unclassifiable for all criteria pollutants (PM_{10}, CO, NO_x, SO_2, lead, and ozone). There is not a Class I area(s) within 10 kilometers (km) of the facility. This facility is located in Air Quality Control Region (AQCR) 61 and Universal Transverse Mercator (UTM) Zone 12.

4. APPLICATION SCOPE

The scope of the Tier I operating permit application is to incorporate all existing PTC's and all other applicable requirements. This is a new Tier I operating permit and does not replace an existing Tier I operating permit.

5. SUMMARY OF EVENTS

May 1, 2003	DEQ receives Tier I operating permit application
July 1, 2003	DEQ determines application complete
2003-2005	Two PTC revisions made Tier I operating permit application outdated and inaccurate
June 28, 2005	DEQ receives Revised Tier I operating permit application
February 7, 2006	DEQ issues facility draft permit to DEQ Idaho Falls Regional Office and to Busch Agricultural Resources
March 6, 2006	DEQ receives comments from facility
March 22, 2006	DEQ issues draft Tier I operating permit
April 7 – May 8, 2006	Public comment period held
May 18, 206	Proposed permit issued for EPA review
June 8, 2006	Letter received from EPA stating that the permit may be issued final

5.1 Permitting History

April 10, 1989	PTC No. 0260-0025, issued April 10, 1989
October 2, 1990	PTC No. 0260-0025, issued October 2, 1990
March 12, 1991	PTC No. 0260-0025, issued March 12, 1991
August 5, 1993	PTC No. 0260-0025, issued August 5, 1993
December 29, 1993	PTC No. 0260-0025, issued December 29, 1993
April 30, 2002	PTC No. 019-0025, issued April 30, 2002
September 5, 2003	PTC No. 019-0025, issued September 5, 2003
October 26, 2004	PTC No. 019-0025, issued October 26, 2004
March 11, 2005	PTC No. 019-0025, issued March 11, 2005

6. PERMIT ANALYSIS

This section of the Statement of Basis describes the regulatory requirements for this Tier I operating permit action.

6.1 Basis of Analysis

The following documents were relied upon in preparing this memorandum and the Tier I operating permit:

- PTC No. 019-0025, issued March 11, 2005
- Tier I Operating Permit application update received May 1, 2003
- Guidance developed by the U.S. Environmental Protection Agency (EPA) and DEQ

6.2 Emissions Description and Emissions Inventory

Table 6.1 shows the emission sources at the facility with the maximum design rates and associated control equipment.

The estimated emissions for S03 through S07 are taken from the permit limits from the permit to construct. The remaining barley handling lb/hr emission estimates were compiled from the emission estimates done for the permit to construct. Because there are no limits on the hours of operation, the annual emissions were estimated for the sources which do not have annual limits by multiplying the estimated lb/hr by 8,769 hours per year of operation.

Table 6.1 Controlled and Allowable Emission Inventory

Source	PM[a]		PM_{10}[b]		Nitrogen Oxides		Sulfur Dioxide		Carbon Monoxide		VOC[c]	
	(lb/hr)[d]	(T/yr)[e]	(lb/hr)[d]	(T/yr)[e]	(lb/hr)[d]	(T/yr)[e]	(lb/hr)[d]	(T/yr)[e]	(lb/hr)[d]	(T/yr)[e]	(lb/hr)[d]	(T/yr)[e]
S01 Dust system #1	4.11	18.0	4.11	18.0	—	—	—	—	—	—	—	—
S02 Dust system #2	3.39	14.8	3.39	14.8	—	—	—	—	—	—	—	—
S03 Dust system #3	0.75	0.77	0.42	0.43	—	—	—	—	—	—	—	—
S04 Dust system #4	2.49	10.89	2.21	2.95	—	—	—	—	—	—	—	—
S05 Dust system #5	0.16	0.40	0.09	0.22	—	—	—	—	—	—	—	—
S06 Dust system #6	3.48	15.26	3.48	2.73	—	—	—	—	—	—	—	—
S07 Dust system #7	0.05	0.20	0.01	0.02	—	—	—	—	—	—	—	—
S11 Head house vacuum	0.09	0.39	0.09	0.39	—	—	—	—	—	—	—	—
S12 Kiln vacuum	0.09	0.39	0.09	0.39	—	—	—	—	—	—	—	—
K3VAC Kiln 3 vacuum	0.09	0.39	0.09	0.39								
F01 Barley unloading fugitives	8.1	35.5	1.35	5.9	—	—	—	—	—	—	—	—
S10 Boilers 1-3	0.68	1.08	0.68	1.08	9.00	14.15	0.05	0.08	7.56	11.89	0.50	0.78
Kilns 1, 2, 3 East, and 3 West NG	2.28	7.76	2.28	7.76	29.92	102.0	0.18	0.60	25.13	85.7	1.65	5.60
Kilns 1, 2, 3 East, and 3 West Process	17.1	74.9	15.3	67.0	—	—	192.0	95.0	—	—	—	—
Total:	42.86	180.73	33.59	122.06	38.92	116.15	192.23	95.68	32.69	97.59	2.15	6.38

[a]Particulate Matter
[b]Particulate Matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
[c]Volatile Organic Compounds
[d]Pounds per hour
[e]Tons per year

The following potential to emit table (Table 6.2) is for determining compliance assurance monitoring (CAM) applicability for sources for which the PM_{10} emissions are controlled using control equipment. CAM requires that emissions from each source (of PM_{10}, in this case) be estimated without control equipment. There is more detailed discussion of CAM applicability in Section 7.3 of this statement of basis.

The estimated emissions in Table 6.2 were calculated using the most recent AP-42 tables and factors from EPA's FIRE database.

Table 6.2 PM_{10} POTENTIAL TO EMIT (WITHOUT EMISSION CONTROLS)

Source	Throughput (T/yr)[a]	Emission Factor (lb/ton)[b]	PM_{10}[c] (T/yr)[a]
S01 Barley unloading/conveying	436,400	0.059 AP-42 grain receiving, straight truck	12.9
S01 By-product load-out	32,730	0.029 AP-42 grain shipping, truck	0.47
S02 By-product load-out	32,730	0.029 AP-42 grain shipping, truck	0.47
S02 Malt load-out	404,700	0.029 AP-42 grain shipping, truck	5.9
S02 Barley transfer	436,400	0.034 AP-42 headhouse and grain handling	7.42
S02 Malt transfer	404,700	0.034 AP-42 headhouse and grain handling	6.88
S03 In-house handling of barley	436,400	0.034 AP-42 headhouse and grain handling	7.42
S03 In-house handling of malt	404,700	0.034 AP-42 headhouse and grain handling	6.88
S04 Barley cleaning and associated handling	436,400	0.45 EPA FIRE database 30200603 for feed and grain country elevators, cleaning	98.19
S05 Graded barley transfer to malt house	436,400	0.034 AP-42 headhouse and grain handling	7.42
S06 Dry malt cleaning, storage, and associated handling	404,700	0.45 EPA FIRE database 30200603 for feed and grain country elevators, cleaning	91.06
S07 Transfer of dust from dust systems #'s 1, 2, 4, 5, .& 6	21,900	0.048 EPA FIRE database 30200605 for feed and grain country elevators, unloading (receiving)	0.53
S11 Head house vacuum	17,520	0.048 EPA FIRE database 30200605 for feed and grain country elevators, unloading (receiving)	0.42
S12 Kiln vacuum	17,520	0.048 EPA FIRE database 30200605 for feed and grain country elevators, unloading (receiving)	0.42
DS8 Barley elevator to daybin	436,400	0.034 AP-42 headhouse and grain handling	7.42
DS8 Barley daybin to barley washer	436,400	0.034 AP-42 headhouse and grain handling	7.42
DS8 Malt kiln to leg transfer	404,700	0.034 AP-42 headhouse and grain handling	6.88
DS8 Malt kiln leg	404,700	0.034 AP-42 headhouse and grain handling	6.88
DS8 Malt daybin	404,700	0.034 AP-42 headhouse and grain handling	6.88
DS8 Malt daybin to elevator	404,700	0.034 AP-42 headhouse and grain handling	6.88
S13 K3VAC Kiln 3 vacuum	2	0.048 EPA FIRE database 30200605 for feed and grain country elevators, unloading (receiving)	0.000048

[a]Tons per year
[b]Pounds per ton
[c]Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers

7. REGULATORY ANALYSIS

7.1 IDAPA 58.01.01.313.01 – Original Tier I Operating Permit

This permitting action is a new Tier I operating permit. New Tier I operating permits are subject to the requirements of IDAPA 58.01.01.313.01.

7.2 New Source Performance Standards (NSPS) – 40 CFR 60

40 CFR 60 Subpart DD ..... Standards of Performance for Grain Elevators

This rule applies as follows:

60.300 (a) The provisions of this subpart apply to each affected facility at any grain terminal elevator or any grain storage elevator, except as provided under §60.304(b). The affected facilities are each truck unloading station, truck loading station, barge and ship unloading station, barge and ship loading station, railcar loading station, railcar unloading station, grain dryer, and all grain handling operations.

60.300 (b) Any facility under paragraph (a) of this section which commences construction, modification, or reconstruction after August 3, 1978, is subject to the requirements of this part.

60.301 (a) Grain means corn, wheat, sorghum, rice, rye, oats, barley, and soybeans.

60.301 (b) Grain elevator means any plant or installation at which grain is unloaded, handled, cleaned, dried, stored, or loaded.

This facility handles barley, which is a grain, and is a grain elevator constructed after August 3, 1978. Therefore, Subpart DD applies. The EPA has determined that malt is not considered to be barley, and the facilities which process malt exclusively are not subject to Subpart DD. Facilities which process both malt and barley, and not malt exclusively, are subject to Subpart DD because barley is a grain and there is no way to separate the malt part of the emissions from the barley part.

The Subpart DD requirements cover grain elevator operations including the following facility operations:

- Truck unloading stations
- Truck loading stations
- Railcar loading stations
- Railcar unloading stations
- Grain handling operations

Section 60.302 states:

(b) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility except a grain dryer any process emission which:

(1) Contains particulate matter in excess of 0.023 g/dscm (ca. 0.01 gr/dscf).

(2) Exhibits greater than 0 percent opacity.

(c) On and after the 60th day of achieving the maximum production rate at which the affected facility will be operated, but no later than 180 days after initial startup, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere any fugitive emission from:

(1) Any individual truck unloading station, railcar unloading station, or railcar loading station, which exhibits greater than 5 percent opacity.

(2) Any grain handling operation which exhibits greater than 0 percent opacity.

(3) Any truck loading station which exhibits greater than 10 percent opacity.

PTC No. P-040520, issued 3/11/05, contains permit conditions that address the requirements of this section. This PTC was incorporated into the Tier I operating permit. No changes or additional permit conditions are required.

7.3 Compliance Assurance Monitoring (CAM) – 40 CFR 64

Applicability to Compliance Assurance Monitoring (CAM) is assessed as follows:

(a) General applicability. Except for backup utility units that are exempt under paragraph (b)(2) of this section, the requirements of this part shall apply to a pollutant-specific emissions unit at a major source that is required to obtain a part 70 or 71 permit if the unit satisfies all of the following criteria:

The Busch Agricultural Resources facility is a major source that is required to obtain a Part 71 permit as described in Section 3 of this statement of basis.

(1) The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof), other than an emission limitation or standard that is exempt under paragraph (b)(1) of this section;

The facility has emission limitations and standards for several units at the site that are not exempt under (b)(1) of this section.

(2) The unit uses a control device to achieve compliance with any such emission limitation or standard;

Baghouses are used as control devices to achieve compliance with PM_{10} limits.

and

(3) The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. For purposes of this paragraph, "potential pre-control device emissions" shall have the same meaning as "potential to emit," as defined in §64.1, except that emission reductions achieved by the applicable control device shall not be taken into account.

The facility's application shows that none of the units that use a baghouse to control PM_{10} emissions potential uncontrolled emissions that exceed 100 tons per year. The largest two PM_{10} sources are the SO4 and SO6 cleaning and handling operations, which are controlled by baghouses. These have potential uncontrolled PM_{10} emissions of 98.19 T/yr and 91.06 T/yr, respectively. Neither exceeds the applicability limit of 100 T/yr.

Therefore, CAM does not apply.

8. PERMIT ANALYSIS

The permit conditions that were written in the Tier I operating permit are incorporated from PTC No. P-040520 and are documented in previous PTC actions. All of the permit conditions in PTC No. P-040520 were incorporated into the Tier I operating permit without change, other than as follows:

Permit Condition 4.9.1 from PTC No. P-040520 was not copied into the Tier I operating permit because this permit condition requires performance testing which has been completed and approved. The permit condition is as follows:

4.9.1 Within 60 days after achieving the maximum production rate at which the source will operate, but not later than 180 days after initial startup after issuance of Permit to Construct No. 019-00025, issued April 30, 2002, the permittee shall conduct performance tests to measure PM and opacity from stacks S04 and S06 in accordance with 40 CFR 60.14.

The testing was June 15, 2004, showed compliance with the permit limits, and was approved by DEQ. Therefore, this permit condition has been completed and is not required in the Tier I operating permit.

The visible emissions monitoring permit condition in PTC No. P-040520, issued March 11, 2005, has not be copied into the Tier I operating permit because it is similar to Tier I Operating Permit Condition 2.8. The PTC permit condition, which appears in two locations in the PTC, is copied below with the portions that are different than Tier I Permit Condition 2.8 underlined. Permit Condition 2.8 from the Tier I operating permit is also presented here for comparison (also underlining the different parts).

The wording of this permit condition in the PTC is the product of discussions between DEQ and Busch Agricultural Resources in 2003. This was the wording agreed to by both parties.

Visible Emissions Monitoring from PTC No. P-040520

The permittee shall conduct a monthly inspection of *any point* of *emission* during daylight hours and under normal operating conditions. The inspection shall consist of a see/no see evaluation for each potential source of visible emissions. If any visible emissions are present from any point of emission, the permittee shall either take appropriate corrective action as expeditiously as practicable, or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test. If opacity is greater than 20% for a period or periods aggregating more than three minutes in any 60-minute period, the permittee shall take all necessary corrective action and report the exceedance in its annual compliance certification and in accordance with IDAPA 58.01.01.130-136. The permittee shall maintain records of the results of each monthly visible emission inspection and each opacity test when conducted. The records shall include, at a minimum, the date and results of each inspection and test and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken.

Permit Condition 2.8 from the Tier I operating permit

The permittee shall conduct a monthly *facility-wide* inspection of *potential sources* of *visible emissions*, during daylight hours and under normal operating conditions. The inspection shall consist of a see/no see evaluation for each potential source of visible emissions. If any visible emissions are present from any point of emission, the permittee shall either take appropriate corrective action as expeditiously as practicable, or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test. If opacity is greater than 20% for a period or periods aggregating more than three minutes in any 60-minute period, the permittee shall take all necessary corrective action and report the exceedance in its annual compliance certification and in accordance with IDAPA 58.01.01.130-136. The permittee shall maintain records of the results of each monthly visible emission inspection and each opacity test when conducted. The records shall include, at a minimum, the date and results of each inspection and test and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken.

9. INSIGNIFICANT ACTIVITIES

Activities and emission units identified as insignificant under IDAPA 58.01.01.317.01(b) are listed in the Tier I operating permit to qualify for a permit shield.

Table 8.1 INSIGNIFICANT ACTIVITIES

Description	Insignificant Activities IDAPA 58.01.01.317.01(b)(I) Citation
Operation, loading and unloading of storage tanks and storage vessels, with lids or other appropriate closure and less than 260 gallon capacity, 35 cubic feet, heated only to the minimum extent to avoid solidification if necessary.	1
Operation, loading and unloading of storage tanks, not greater than 1,100 gallon capacity, with lids or other appropriate closure, not for use with hazardous air pollutants, max. vapor pressure 550 mmHg	2
Welding using not more than one ton per day of welding rod	9
Water cooling towers and ponds, not using chromium-based corrosion inhibitors, not used with barometric jets or condensers, not greater than 10,000 gpm, not in direct contact with gaseous or liquid process streams containing regulated air pollutants	13
Municipal and industrial water chlorination facilities of not greater than 20,000,000 gallons per day capacity. The exemption does not apply to waste water treatment.	16
Surface coating, using less than two gallons per day	17
Space heaters and hot water heaters using natural gas, propane or kerosene and generating less than 5 MMBtu/hr	18
Milling and grinding activities, using paste-form compounds with less than one percent volatile organic compounds	22
Surface coating, aqueous solution or suspension containing less than one percent volatile organic compounds	25
Storage and handling of water-based lubricants for metal working where the organic content of the lubricant is less than 10%	27
Two 2,000-gallon 12% bleach tanks, which are an emission unit or activity with potential emissions less than or equal to the significant emission rate as defined in Section 006 and actual emissions less than or equal to 10% of the levels contained in Section 006 of the definition of significant and no more than one ton per year of any hazardous air pollutant	30

10. ALTERNATIVE OPERATING SCENARIOS

The facility did not request any alternative operating scenarios.

11. TRADING SCENARIOS

The facility did not request any trading scenarios.

12. PERMIT REVIEW

12.1 Regional Review of Draft Permit

DEQ provided the draft permit to its Idaho Falls Regional Office on February 7, 2006. The regional office did not have any comments regarding the draft permit.

12.2 Facility Review of Draft Permit

DEQ provided the draft permit to Busch Agricultural Resources for its review on February 7, 2006. The facility provided written comments on the draft permit on March 1, 2006, which was received by DEQ on March 6, 2006. The comments were to change the responsible official and phone number, which has been done.

12.3 Public Comment

DEQ provided the draft permit for public comment on March 22, 2006. The public comment period was provided from April 7, 2006, through May 8, 2006. The Fort Hall Indian Reservation is within 50 miles of this Tier I Source and is an affected state. As such, notification of the public comment period was provided as required by IDAPA 58.01.01.364. No comments were submitted from the public or the affected state in response to DEQ's draft permit.

13. ACID RAIN PERMIT

This facility is not an affected facility as defined in 40 CFR 72 through 75; therefore, acid rain permit requirements do not apply.

14. REGISTRATION FEES

This facility is a major facility as defined by IDAPA 58.01.01.008.10; therefore, registration and registration fees in accordance with IDAPA 58.01.01.387 apply. The facility is in compliance with registration and registration fee requirements.

15. RECOMMENDATION

Based on the Tier I operating permit application and review of state rules and federal regulation, staff recommend that DEQ issue Tier I Operating Permit No. T1-030512 to Busch Agricultural Resources for its Idaho Falls malt plant. This permit is a new Tier I operating permit and does not replace any previous Tier I operating permit. The permit was made available for public comment as required by IDAPA 58.01.01.364. The project does not involve PSD permitting requirements.

CZ/bf Permit No. P-030512

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Appendix A

AIRS FORM

AIRS/AFS[a] FACILITY-WIDE CLASSIFICATION[b] DATA ENTRY FORM

Facility Name: Busch Agricultural Resources, Inc.
Facility Location: Idaho Falls
AIRS Number: 019-00025

AIR PROGRAM / POLLUTANT	SIP	PSD	NSPS (Part 60)	NESHAP (Part 61)	MACT (Part 63)	SM80	TITLE V	AREA CLASSIFICATION A-Attainment U-Unclassified N- Nonattainment
SO_2	B							U
NO_x	A						A	U
CO	B							U
PM_{10}	A						A	U
PT (Particulate)	B		DD					U
VOC	B							U
THAP (Total HAPs)	B							
			APPLICABLE SUBPART					
			DD					

[a] Aerometric Information Retrieval System (AIRS) Facility Subsystem (AFS)

[b] AIRS/AFS Classification Codes:

A = Actual or potential emissions of a pollutant are above the applicable major source threshold. For HAPs only, class "A" is applied to each pollutant which is at or above the 10 T/yr threshold, or each pollutant that is below the 10 T/yr threshold, but contributes to a plant total in excess of 25 T/yr of all HAPs.

SM = Potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable regulations or limitations.

B = Actual and potential emissions below all applicable major source thresholds.

C = Class is unknown.

ND = Major source thresholds are not defined (e.g., radionuclides).